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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,814	03/07/2001	Tetsuya Yashiki	OAC-009	5757

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28 STATE STREET  
BOSTON, MA 02109

EXAMINER
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BANGACHON, WILLIAM L

ART UNIT	PAPER NUMBER
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2635

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/800,814	Applicant(s) YASHIKI ET AL.	
	Examiner William Bangachon	Art Unit 2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/31/04 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **“first and second security data having the same function”** as claimed in claims 15 and 22; **“the rewritable and non-rewritable memory is implemented in a single memory”** as claimed in claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. (i.e. Figures 2 and 5 shows different functions for the first (f1)

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and second (f2) security data). In this case, the first and second security data should show same function (f).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

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The specification lacks description of the claimed **“rewritable and non-rewritable memory is implemented in a single memory”** in claim 5. The specification discloses that the **“rewritable and non-rewritable memory is implemented in a single chip (CPU)”**, but not single memory.

The specification lacks description of the claimed **“first and second security data having the same function”** in claims 15 and 22, wherein different first and second security data values are generated.

### ***Claim Objections***

5. Claim 6 is objected to because of the following informalities: Claim 6 lacks a transitional phrase (i.e. comprising, consisting). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 1-2 and 6-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear in the “wherein” clause on how the recited function is performed without means for performing the function.

It is unclear in claims 6 and 7 on whether the limitation **“new security data”** or **“first security data”** is used to determine whether rewriting to the rewritable memory is

permitted and/or whether the **“new security data”** and **“first security data”** are the same or used simultaneously in the determining step.

It is unclear in claims 10 and 14 on whether the limitation **“new security data”** or **“second security data”** is used to determine whether rewriting to the rewritable memory is permitted and/or whether the **“new security data”** and **“second security data”** are the same or used simultaneously in the determining step.

It is unclear in claims 18 and 21 on whether the limitation **“new security data”** or **“second security data”** is used to determine whether rewriting to the rewritable memory is permitted and/or whether the **“new security data”** and **“second security data”** are the same or used simultaneously in the determining step.

Claim 6 provides for the **use of “new security data”** and claims 10 and 18 provides for the **use of “first security data”** to determine whether rewriting to the rewritable memory is permitted. But, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. i.e. the security data is used to compare with another security data or the security data is used as a seed to create a random number to be used in the determining step.

Claims 15 and 22 recite the limitation **“the first security data and the second security data have the same function”**. It is therefore unclear how the first function value would not be the same as the second function value. See remarks in the drawing objection section.

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Claims 2 and 11 recite the limitation "**the program**"; claim 15 recites the limitation "**second security data**". There is insufficient antecedent basis for these limitations in the claims.

The limitation "**a memory**" in claim 6 lacks cooperative structural relationship among the elements in the claim.

The limitation "**one or more signals**" in claim 23 lacks cooperative structural relationship among the elements in the claim. It is unclear whether the "**one or more signals**" and "**new security function**" are the same.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 6,285,948 (Takagi et al).

In claims 1, 6-7, and 10, Takagi et al teach of a vehicle controller (2) {col. 1, lines 41-61} comprising a rewritable memory (28) {col. 3, lines 26-39} for storing first security data (program or key ID) used to determine whether rewriting to the rewritable memory (28) is permitted {col. 4, lines 42-49};

wherein the vehicle controller (2) is configured, in response to receipt of new security data from an external rewriting device (14) {paragraph bridging cols. 2 and 3} to delete the first security data, and to write the new security data into the rewritable memory (28) {col. 5, lines 33-41; col. 6, lines 4-15}.

Although Takagi et al does not disclose expressly **“deleting the first security data in response to receipt of new security data”**, these claim limitations would have



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been obvious in the system of Takagi, to one of ordinary skill in the art. Takagi teach of erasing the contents of the address where the control program and program ID resides {col. 5, lines 39-41}. Obviously, the program ID gets deleted because the content of said address is the program ID in response to updating the system with a new program having a new program ID. For instance, this new program ID is a version update of the old program ID. Takagi teach of changing the key ID (first security data) of a lost or stolen key to a new one (new security data) {col. 6, lines 10-15}. Obviously, the old key ID is deleted to protect the ECU from unauthorized rewriting, which may be tried by using the stolen key.

In claim 2, the vehicle controller (2) of claim 1, wherein the program (stored rewriting control program) for deleting the first security data and writing the new security data is stored in a non-rewritable memory {col. 2, lines 46-56; col. 3, lines 39-47}.

In claim 3, the vehicle controller of claim 1, wherein an anti-theft system is connected to the vehicle controller {col. 6, lines 6-9; col. 7, lines 1-9}; and

wherein rewriting to the rewritable memory is permitted if the anti-theft system permits an operation as to the vehicle {col. 7, lines 15-25}.

In claim 4, the vehicle controller of claim 1, wherein the rewritable memory is implemented in any form of a flash memory, EPROM and EEPROM {col. 2, lines 58-62; col. 3, lines 49-51}.

In claim 5, the rewritable and non-rewritable memory is implemented in a single memory {col. 2, lines 46-56; col. 6, lines 55-64}.

In claim 8, the rewriting device of claim 6, further comprising a user interface that enables a user to create the new security data {col. 5, lines 59-61}.

In claim 9, the rewriting device of claim 6, wherein the controller is further configured to assemble serial data blocks from the new security data {col. 2, lines 65-67}; and

wherein the communication means transfers the serial data blocks via serial communication {col. 3, lines 5-17}.

Claims 10-13 and 17 recites the combination of a vehicle controller in claims 1-3 and the rewriting device of claims 6-9 and therefore rejected for the same reasons.

Claim 14 recites, "comparing the first and second security data, and if there is a match, rewriting to rewritable memory is permitted." {paragraph bridging cols. 4 and 5}.

Claim 15 recites the calculation of a first function value for a number based on the first security data and a second function value based on the second security data,

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compare the first and second function values, and if there is a match, rewriting to rewritable memory is permitted {col. 6, lines 17-51}.

Claims 18-22 recites a method for practicing the memory rewriting system of claims 10-17 and therefore rejected for the same reasons.

Claim 23 recites the combination of claims 6-9 and therefore rejected for the same reasons.

12. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over USP 6,285,948 (Takagi et al) in view of US 6,401,207 (Funakoshi et al).

Takagi does not disclose **“the number as being generated from random numbers in the vehicle controller”**.

Funakoshi teach of creating a new security data each time a security device of a vehicle is used and writing the new security data in memory {Funakoshi, col. 8, lines 15-49} for the purpose of enhancing the security level of the vehicle security device {Funakoshi, col. 2, lines 7-12; col. 9, lines 3-12}. And Funakoshi teach **“the number as being generated from random numbers in the vehicle controller”** {Funakoshi, col. 10, lines 55-59} as a further enhancement to the security. Clearly, these features are desirable in the system of Takagi because the security data is changed all the time and will not allow code grabbers to operate the vehicle {Takagi, col. 6, lines 10-14}. The

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systems of Takagi and Funakoshi are analogous art because they are from same field of endeavor (anti-theft systems). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to have numbers generated from random numbers, as claimed, in the system of Takagi because this enhances the security level in a vehicle by constantly changing the security data, as evidenced by Funakoshi.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USP 5,826,211 (Kobayashi) is cited in that it teaches of a vehicle controller (ECU 2) comprising a rewritable memory (4, 6) for storing first security data used to determine whether rewriting to the rewritable memory is permitted. See whole document.

USP 6,163,271 (Yoshizawa et al) is cited in that it teach of a vehicle-mounted controller (31) comprising a rewritable memory (46) for storing first security data used to determine whether rewriting to the rewritable memory is permitted. See whole document.

### ***Examiner Contact Information***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Bangachon whose telephone number is 571-272-3065. The examiner can normally be reached on 4/4/10.

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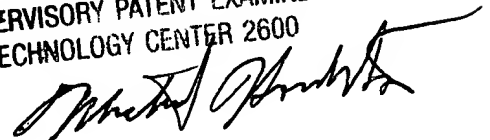
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 571-272-3068. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9314 for regular and After Final formal communications. The examiner's fax number is 571-273-3065 for informal communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

William L Bangachon  
Examiner  
Art Unit 2635

September 30, 2004

MICHAEL HORABIK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

A handwritten signature in black ink, appearing to read "Michael Horabik", is written over the printed name and title of the Supervisory Patent Examiner.